

RUPTURE OF THE SPHINCTER OF THE IRIS AND V-SHAPED RUPTURE OF THE CHOROID ON THE NASAL SIDE FROM CONTUSION OF THE EYEBALL.*

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The frequency of choroidal rupture is variously stated by statisticians: Thus, E. Paun† gives the following figures: Hulse enumerates among 28,000 eye diseases in the Kiel clinic 22 cases of choroidal rupture; Knapp more than 12 choroidal ruptures among 18,000 patients; Hughes one rupture among 1,000 patients; while Pohlenz reports 46 ruptures among 5,000 patients. Combining these figures, we have 52,000 eye diseases and 81 choroidal ruptures, or about 0.155 per cent. Mooren gives the percentage as 0.014 (16 ruptures among 108,416 patients) and Cohn as 0.08 (8 ruptures among 100,000 eye diseases).

As is well known, choroidal ruptures usually occur on the temporal side of the disc, comparatively rarely on the nasal side, and very seldom in the horizontal direction. Hughes's statistics in this respect are interesting, viz.: temporal rupture, 82 per cent., nasal rupture 14 per cent., horizontal rupture 4 per cent.

Rupture of the sphincter producing mydriasis and minute notchings of the pupil border is more common than choroidal rupture. It is the lesion which probably always accompanies permanent dilatation of the pupil after a blow,—the so-called traumatic mydriasis. Mooren reports 87 examples among 108,416 eye patients, and Cohn 29 cases among 100,000 eye diseases.

I have no statistics to show the frequency of the association of iris-sphincter rupture and choroidal rupture; nor do I know of any which have been collected. I think this double lesion must be comparatively uncommon. Personally, I have not observed it before the patient whose history follows presented herself for treatment.

Mrs. L., aged 31, married, reported for treatment on November 13, 1897, and gave this account of her ocular disabilities: Three weeks prior to her visit to my office, while standing behind of a golf player, she was struck in the left eye with the metal end of a golf club on the upward swing.

* Read before the Ophthalmic Section of the College of Physicians of Philadelphia, March 26, 1901.

† Die Verletzungen des Auges, Wiesbaden, 1899, p. 131.

The immediate results of the blow were those usually seen after contusion of the eyeball: pain, tenderness, congestion of the globe, dilatation of the pupil and moderate disturbance of vision. The patient was judiciously treated by the local physician, atropine solution being instilled until all irritative phenomena had subsided.

When I examined her, the pupil was dilated 6 mm., and contained several characteristic notches in its border, particularly down and out. The media were clear, and with her correcting glass, viz.— $.75^s + 2^c$ axis 90, the vision was $\frac{5}{6}$. Ophthalmoscopically, the following lesions were evident: Upward and inward from the disc border there was a somewhat V-shaped rupture of the choroid and retina. The left branch began just at the disc's edge; it was broad and slightly decked with pigment and terminated in a blackish end almost at right angles to the main break. One disc's diameter from the beginning of this tear a second somewhat curved, but much narrower lesion, extended in a semicircle above the disc, and terminated in an irregular, club-shaped end fringed with pigment. The rest of the eyeground was entirely normal and the retinal circulation unaffected. As the eye was white and quiet and the vision normal, no treatment was required.

During February of the present year the patient returned on account of some asthenopia. The fundus exhibited the appearances seen in the diagram. Her pupil was still notched and dilated. The glasses which she had been wearing with comfort since 1893 were as follows:

O. D. — 1^c axis 45, $\frac{5}{6}$.

O. S. — $.75^c + 2^c$ axis 90, $\frac{5}{6}$.

After mydriasis the following combination was found to represent the total refractive error:

O. D. — 1.50^c axis 45, $\frac{5}{6}$.

O. S. — $1.50^s + 2.25^c$ axis 95, $\frac{5}{6}$.

These, with $+1.50$ added for reading, were ordered and have given entire satisfaction.

Evidently the points of interest in this case are these:

- a. The association of choroidal and iris sphincter-rupture.
- b. The situation of the choroidal rupture upward and inward from the disc and its peculiar branched shape.
- c. The preservation or restoration of entirely normal vision.

The change in the refraction of the eye can hardly be attributed to this accident.